

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended)) A delivery system for a self-expanding stent, the delivery system comprising:
- a catheter having a distal end, the catheter being configured to retain a self-expanding stent proximate the distal end, the catheter including
- a tubular member including a first marker band proximate a position corresponding to a leading end of a self-expanding stent to indicate a position of the leading end, a second marker band proximate a position corresponding to a trailing end of the self-expanding stent to indicate a position of the trailing end, and a third marker band between the first and second marker bands and between the leading and trailing ends of the stent, and
- an outer member positioned about the tubular member; the outer member being slidable relative to the tubular member in an axial direction; and
- an inflatable device provided on the catheter and positioned proximate the distal end.
2. (Previously presented) The combination of claim 29, wherein the catheter includes a tubular member and an outer member coaxially positioned about the tubular member, the outer member being slidable relative to the tubular member in an axial direction.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

3. (Previously presented) The delivery system of claim 1, wherein the outer member is configured to retain a self-expanding stent in a radially-compressed position and to release the self-expanding stent to a radially-expanded position.

4. (Original) The delivery system of claim 3, wherein the inflatable device is a balloon configured to selectively assist the self-expanding stent with radial expansion.

5. (Currently amended) A delivery system for a self-expanding stent, the delivery system comprising:

a catheter having a distal end, the catheter being configured to retain a self-expanding stent proximate the distal end, the catheter including

a tubular member including a first marker band proximate a position corresponding to a leading end of a self-expanding stent, a second marker band proximate a position corresponding to a trailing end of the self-expanding stent, and a third marker band between the first and second marker bands, and

an outer member positioned about the tubular member; the outer member being slidable relative to the tubular member in an axial direction;

an inflatable device provided on the catheter and positioned proximate the distal end; and

a loading funnel, the loading funnel being configured to be removably attachable to a distal end of the tubular member and to receive the stent therein as the stent is loaded onto the delivery system.

6. (Original) The delivery system of claim 5, wherein the loading funnel is configured to assist with radial compression of the self-expanding stent and advancement of the self-expanding stent within the outer member.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

7. (Previously presented) The delivery system of claim 1, further comprising a spacing jacket coaxially positioned about the tubular member and inside the outer member.

8. (Previously presented) The delivery system of claim 1, further comprising a fluid port, the fluid port configured to receive a fluid and direct the fluid to a region between the tubular member and outer member.

9. (Previously presented) The delivery system of claim 1, wherein the distal end of the tubular member includes a tapered tip.

10. (Original) The delivery system of claim 9, wherein the tapered tip includes a surface extending radially outward from the tubular member to form a seat to receive the outer member.

11. (Previously presented) The delivery system of claim 1, wherein the third marker band indicates a position corresponding to a re-constrain limit of a partially-expanded, self-expanding stent.

12. (Previously presented) The delivery system of claim 1, wherein the tubular member defines a first lumen and a second lumen, one of the first lumen and the second lumen configured to receive a guidewire, and the other of the first lumen and the second lumen providing a fluid passage to the inflatable device.

13. (Previously presented) The delivery system of claim 1, wherein at least one of the first, second, and third marker bands is a radiopaque marker band.

14. (Previously presented) The delivery system of claim 1, further comprising a holding sleeve provided on the tubular member and configured to hold a self-expanding stent, the holding sleeve being spaced from the distal end of the catheter.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

15. (Original) The delivery system of claim 1, wherein the inflatable device is a balloon.

16. (Previously presented) In combination, a self-expanding stent and a delivery system for the self-expanding stent, the combination comprising:

the delivery system of claim 1; and

a self-expanding stent mounted on the delivery system.

17. (Currently amended) A method for implantation of a self-expanding stent, the method comprising:

attaching a funnel to a distal end of a delivery system, the providing a
delivery system including ~~a self-expanding stent~~, a catheter having a distal end and being configured to retain ~~the~~ a self-expanding stent proximate the distal end, and an inflatable device provided on the catheter and positioned beneath at least a portion of the self-expanding stent prior to deployment of the self-expanding stent;

loading a self-expanding stent onto the delivery system through the funnel;

delivering the delivery system to a region of a vessel to be repaired;

implanting the self-expanding stent into a wall of the vessel to be repaired;

and

inflating the inflatable device to assist expansion of the self-expanding stent.

18. (Original) The method of claim 17, wherein delivering the delivery system includes:

positioning a medical guidewire;

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

guiding the delivery system with the guidewire to the area of the vessel to be repaired.

19. (Original) The method of claim 17, wherein delivering the delivery system includes:

positioning an endoscope;

guiding the delivery system through an endoscope to the area of the vessel to be repaired.

20. (Original) The method of claim 17, wherein providing a delivery system includes providing the catheter with a tubular member and an outer member coaxially positioned about the tubular member, the outer member being slidable relative to the tubular member in an axial direction

21. (Original) The method of claim 20, wherein implanting the self-expanding stent includes effectuating relative axial movement between the tubular member and outer member to release the stent and allow the stent to self-expand.

22. (Original) The method of claim 20, wherein providing a delivery system includes providing a holding sleeve on the tubular member spaced from the distal end of the catheter and configured to hold the self-expanding stent during delivery of the delivery system.

23. (Original) The method of claim 17, wherein inflating the inflatable device includes re-positioning the already-delivered delivery system such that the inflatable device is properly aligned with the self-expanded stent.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

24. (Original) The method of claim 23, wherein re-positioning the already-delivered delivery system includes slightly retracting the delivery system from the point of implantation of the stent.

25. (Original) The method of claim 17, wherein inflating the inflatable device includes supplying fluid to the inflatable device.

26. (Original) The method of claim 25, wherein supplying fluid includes supplying air.

27. (Original) The method of claim 25, wherein supplying fluid includes supplying fluid by way of a lumen tube extending through the catheter.

28. (Original) The method of claim 17, further comprising:

deflating the inflatable device; and

withdrawing the delivery system from a patient's anatomy.

29. (Currently amended) In combination, a self-expanding stent and a delivery system for the self-expanding stent, the combination comprising:

a self-expanding stent;

a catheter having a distal end, the catheter being configured to retain the self-expanding stent proximate the distal end, the catheter including a tubular member having a first marker band proximate a position corresponding to a leading end of a self-expanding stent to indicate a position of the leading end, a second marker band proximate a position corresponding to a trailing end of the self-expanding stent to indicate a position of the trailing end, and a third marker band between the first and second marker bands and between the leading and trailing ends of the stent; and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

an inflatable device provided on the catheter, at least a portion of the self-expanding stent overlapping at least a portion of the inflatable device prior to deployment of the self-expanding stent.

30. (Previously presented) The combination of claim 2, wherein the outer member is configured to retain the self-expanding stent in a radially-compressed position and to release the self-expanding stent to a radially-expanded position.

31. (Currently amended) In combination, a self-expanding stent and a delivery system for the self-expanding stent, the combination comprising:

a self-expanding stent;

a catheter having a distal end, the catheter being configured to retain the self-expanding stent proximate the distal end, the catheter including

a tubular member, and

an outer member coaxially positioned about the tubular member, the outer member being slidable relative to the tubular member in an axial direction;

an inflatable device provided on the catheter, at least a portion of the self-expanding stent overlapping at least a portion of the inflatable device; and

a loading funnel, the loading funnel being configured to be removably attachable to a distal end of the tubular member and to receive the stent therein as the stent is loaded onto the delivery system.

32. (Previously presented) The combination of claim 2, further comprising a spacing jacket coaxially positioned about the tubular member and inside the outer member.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

33. (Previously presented) The combination of claim 2, wherein the tubular member includes a first marker band indicating a position corresponding to a proximal end of the self-expanding stent, a second marker band indicating a position corresponding to a re-constrain limit of the self-expanding stent when in a partially-expanded state, and a third marker band indicating a position corresponding to a distal end of the self-expanding stent, the third marker band positioned nearest the distal end of the tubular member and the second marker band positioned between the first marker band and the third marker band.

34. (Previously presented) The combination of claim 2, wherein the tubular member defines a first lumen and a second lumen, one of the first lumen and the second lumen configured to receive a guidewire, and the other of the first lumen and the second lumen providing a fluid passage to the inflatable device.

35. (Previously presented) The combination of claim 2, further comprising a holding sleeve provided on the tubular member and configured to hold a self-expanding stent, the holding sleeve being spaced from the distal end of the catheter.

36. (Currently amended) A delivery system for a self-expanding stent, the delivery system comprising:

a catheter having a distal end, the catheter being configured to retain a self-expanding stent proximate the distal end;

an inflatable device provided on the catheter and positioned proximate the distal end; and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

a loading funnel configured to be removably attachable to the distal end of the catheter and to receive the stent therein as the stent is loaded onto the delivery system.

37. (Previously presented) The delivery system of claim 36, wherein the catheter includes a tubular member and an outer member positioned about the tubular member, the outer member being slidable relative to the tubular member in an axial direction.

38. (Previously presented) The delivery system of claim 37, wherein the loading funnel is configured to assist with radial compression of the self-expanding stent and advancement of the self-expanding stent within the outer member.

39. (Previously presented) The delivery system of claim 37, further comprising a spacing jacket coaxially positioned about the tubular member and inside the outer member.

40. (Previously presented) The delivery system of claim 37, wherein the tubular member includes a first marker band indicating a position corresponding to a proximal end of a self-expanding stent, a second marker band indicating a position corresponding to a re-constrain limit of a partially-expanded, self-expanding stent, and a third marker band indicating a position corresponding to a distal end of a self-expanding stent, the third marker band positioned nearest the distal end of the tubular member and the second marker band positioned between the first marker band and the third marker band.

41. (Previously presented) The delivery system of claim 37, wherein the tubular member defines a first lumen and a second lumen, one of the first lumen and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

the second lumen configured to receive a guidewire, and the other of the first lumen and the second lumen providing a fluid passage to the inflatable device.

42. (Previously presented) The delivery system of claim 37, further comprising a holding sleeve provided on the tubular member and configured to hold a self-expanding stent, the holding sleeve being spaced from the distal end of the catheter.

43. (Previously presented) In combination, a self-expanding stent and a delivery system for the self-expanding stent, the combination comprising:

the delivery system of claim 36; and

a self-expanding stent mounted on the delivery system.

44. (Currently amended) A method for implantation of a self-expanding stent, the method comprising:

providing a delivery system including a self-expanding stent, a catheter having a distal end and being configured to retain the self-expanding stent proximate the distal end and including tubular member having a first marker band proximate a position corresponding to a leading end of a self-expanding stent to indicate a position of the leading end, a second marker band proximate a position corresponding to a trailing end of the self-expanding stent to indicate a position of the trailing end, and a third marker band between the first and second marker bands and between the leading and trailing ends of the stent, and an inflatable device provided on the catheter and positioned beneath at least a portion of the self-expanding stent prior to deployment of the self-expanding stent;

delivering the delivery system to a region of a vessel to be repaired;

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

C

releasing a portion of the self-expanding stent to a position corresponding
with a the third marker band on the catheter;
re-constraining the self-expanding stent;
implanting the self-expanding stent into a wall of the vessel to be repaired;
and
inflating the inflatable device to assist expansion of the self-expanding
stent.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com